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OBSERVATIONS  
ON THE  
MEDICAL EFFECTS  
OF BODILY LABOUR,  
IN  
CHRONIC DISEASES,  
AND  
IN DEBILITY.

BY SAMUEL TUCKER, OF NEW JERSEY,  
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AND MEMBER OF THE MEDICAL LYCÆUM  
OF PHILADELPHIA.

18045-  
"Toil and be strong."

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1806.



AN INAUGURAL DISSERTATION  
FOR  
THE DEGREE  
OF  
DOCTOR OF MEDICINE,  
SUBMITTED  
TO THE EXAMINATION  
OF THE  
REVEREND JOHN ANDREWS, D. D. PROVOST,  
(PRO TEMPORE;)  
THE  
TRUSTEES, AND MEDICAL PROFESSORS  
OF THE  
UNIVERSITY OF PENNSYLVANIA,  
ON THE 21st DAY OF APRIL, 1806.

For E. L. M. Hall M.D.

From his sincere friend

J. Tucker



TO

PHILIP SYNG PHYSICK, M. D.

PROFESSOR OF SURGERY IN THE UNIVERSITY OF PENNSYLVANIA, AND ONE

OF THE SURGEONS OF THE PENNSYLVANIA HOSPITAL,

THIS ESSAY IS INSCRIBED,

AS A TESTIMONY OF SINCERE RESPECT AND ESTEEM,

AND

*AS A TRIBUTE OF GRATITUDE*

FOR THE VARIOUS OPPORTUNITIES OF IMPROVEMENT,

AFFORDED HIS AFFECTIONATE FRIEND

AND PUPIL,

SAMUEL TUCKER.

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## PREFACE.

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The success which has attended the use of labour, in those distressing diseases, which too often render nugatory the best efforts of man, has induced me, in this Inaugural Essay, to attempt exciting some attention to so interesting a subject.

To Dr. Rush, Professor of the Institutes and Practice of Physic in this University, I am indebted for most of the information contained in the following pages. The assistance which he has kindly afforded on this occasion, has contributed to confirm, but could not increase, that respectful and affectionate esteem, which I have long entertained for his character as a physician and a gentleman.

The facts related, will be duly estimated by the physician, who is anxious to relieve the afflicted part of mankind.—Errors of opinion are open for correction: imperfections of style, I hope, will be excused by those who are informed that a few days only were engaged in preparing these observations for the press.



# ON THE

## MEDICAL EFFECTS OF LABOUR, &c.

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THE influence of exercise and labour in preserving health is well known. Fuller's *Gymnastica* contains many useful remarks upon this subject; and the enlightened Dr. Armstrong, by adding to instructive observation, the blandishments of poetry, has given the subject an aspect, highly interesting and delightful.

That labour is necessary to the health of man, it needs but little observation to prove. Though it was inflicted on him as a curse, it is not inconsistent with the goodness of the Creator that it should conduce to his health. This appears to be the opinion of many eminent men. Dr. Rush pronounces it "a blessing in disguise." Dr. Porteus expresses this opinion in the following beautiful manner:

"Cheer'd with the view, man went to till the ground,  
"From whence he rose: sentenc'd indeed to toil,  
"As to a punishment, yet (even in wrath  
"So merciful is Heaven) this toil became  
"The solace of his woes, the sweet employ  
"Of many a live-long hour, and surest guard  
"Against disease and death."

The laborious part of mankind are almost strangers to disease. They are subject to casual injuries, but disease seldom enters their dwellings, unless invited by intemperance. No sooner does the laborious and temperate man indulge in luxurious ease, than disease attacks him. He either becomes the prey of hypochondriasis, or a subject of unwieldy obesity.

The use of LABOUR as a remedy in disease is of recent origin. Dr. Rush appears to be the first who has recommended it to the practice of physicians.

Having thus glanced at the necessity of labour to health, we shall, secondly, mention its *modus operandi*: thirdly, limit its effects to diseases of weak morbid action, and to debility: fourthly, enumerate those diseases in which its good effects have been observed: and, fifthly, suggest some regulations concerning its use.

II. Labour exerts its salutary influence, over every system of the human body. It is more powerful than exercise, and consequently its effects are more permanent. It gives tone to the muscles, which induces a corresponding tone in the blood-vessels and viscera. The lungs are especially invigorated, and this enables them to oxygenate a sufficient quantity of blood, for the production of health.

In diseases of weak morbid action, labour produces a degree of healthy excitement, which overcomes them.

When weak morbid action is confined to a particular part, as the lungs, the healthy excitement, produced in adjacent parts, extends, and overcomes the diseased action; or morbid excitement is diverted, and healthy action ensues.

Its influence on the mind contributes not a little to its efficacy. In some, the mind is diverted by its novelty, in others, it is attended with pleasure, and the hope of relief.

III. Labour should be confined to diseases of weak morbid action, and to debility. Its use in the inflammatory stage of violent diseases would be attended with an aggravation of all their symptoms. Nor should it be used in the debility, which precedes disease. This debility is the predisposing cause of disease. It is attended with an accumulation of excitability, and a certain disposition to morbid action.

Whether this *disposition* is owing to a certain state, or quantity of excitability in the whole system, or any part of the system, I shall not venture to say; but that it is this which gives rise to the various forms of disease, as mania, gout, epilepsy, &c. and not the variety of stimuli or exciting powers, seems very evident; as the same disease may be excited by different stimuli.

While this debility prevails, labour, instead of inducing healthy action, would induce depression, which is another link nearer to disease, or it would excite disease itself.

The debility which succeeds disease is unattended with so great an accumulation of excitability or a disposition to disease. Here labour would produce healthy excitement.

A distinction must be observed between debility and disease; the latter consists in morbid excitement, in the former no morbid excitement exists.

IV. We come now to enumerate those diseases, in which the good effects of labour have been remarked.

## GOUT

Has often been cured by labour; many persons who have been reduced from a state of affluence, to the necessity of labouring for subsistence, have been cured; even those who possessed a hereditary predisposition. This fact is so common that it will be unnecessary to detail cases.

## ASTHMA.

Dr. Rush\* relates the case of Mrs. Rowley, who was perfectly cured by the hard labour she endured, while a prisoner among the Indians.

## HYPOCHONDRIASIS.

This affection has been cured by labour. A hypochondriac was enticed into the fields to assist in making hay; as soon as a free perspiration was induced, all his complaints left him.

## MANIA.

Dr. Gregory relates the practice of a man in Scotland, who cured maniacs, by forcing them to perform the hard labour of dragging a plough.

\* MS Lectures.



Dr. Cullen, also, says he has heard of cures performed by labour.

## EPILEPSY.

This distressing form of disease has engaged the attention of numerous, and eminent physicians. Their labour, however, has been attended with but little success. The facts they have left on record, induce me to believe that its predisposing cause is debility—debility not only of the nerves, but muscles and blood-vessels. This is inferred, first, from the premonitory symptoms, which indicate debility, and secondly, from the remedies most successful in relieving it. They are the most powerful tonics. Instances, indeed there are of epilepsy having been cured by fear and other sedative means; but they must have acted, only by destroying the disposition to the disease. I suppose arsenic acts in the same way, in the cure of intermitting fevers, as, it is said, that this medicine reduces the strength of those whom it cures.

The want of success in the cure of epilepsy, seems to depend on our tonics not being sufficiently powerful. Nor are their effects permanent. Of course they are not able to obviate that inveterate disposition to the disease, which attends the predisposing debility.

Labour, from its powerful and permanent tonic effects, ought to be used in this disease. It has been effectual in some cases.

Julius Cæsar was subject to epilepsy, when at home, but never experienced it, while he was enduring the hardships of a military life.

A case is mentioned by Dr. Rush, in his Lectures, of a man who had fits only on Sundays, when he ceased to labour.

## PULMONARY CONSUMPTION.

Many cases of the efficacy of labour in this disease, might be related—I hope the following will be sufficient. They are detailed in a letter from the Rev. Dr. Samuel K. Jennings, of Bedford County, Virginia, to Dr. Benjamin Rush, and published in Dr. Coxe's Medical Museum of Philadelphia.

“DEAR SIR,

“That theory only is to be considered a rational one, which is supported by facts, and will admit of the most practical utility. If the following facts can be of service to you, it will afford me singular satisfaction to have communicated them.

“I myself furnish the case. My maternal grandmother, my mother, five of her sisters, and four of her brothers, my sister being my mother's first child, and a brother next in succession to me by birth, all of them have been swept off the stage of life, in the course of my recollection, by the fatal disease Phthisis Pulmonalis.—From my youth up to the age of twenty-nine, I was sensible of great debility of the lungs, and was never during that time, able to call aloud, read, or sing, with the ease which is common to other people. I had generally lived a studious and sedentary life, except that I had been the two last years engaged partially in the practice of physic. An offer was at that time made me

to take charge of an academy. For the sake of gaining more leisure for the purpose of reading and study, I accepted the offer. In the meantime I had been three years occasionally employed in speaking publicly upon religious subjects. From this last engagement I considered my lungs to have gained some strength. It followed, however, that study and confinement did less agree with me than formerly. I could perceive a daily declension, and at length having been caught in a moderate rain, I was seized with a very severe and obstinate cough. I was bled again and again to no purpose. After considerable depletion, opium was tried, but in vain. Debility, the cough, and every inflammatory symptom increased. I had recourse to riding, took a journey of several weeks, and continued to let blood as often as the pains were severe; but still in vain. In the meantime I obtained your Inquiries, and immediately turned my attention to the subject which most concerned me. After having carefully read that part of the work, I pursued the following plan, viz: I let blood moderately, every third day, especially if affected with inflammatory symptoms, until with the previous blood-lettings, I had been bled fifteen times in the course of five weeks. By this time I was much reduced, but my cough was no better. I then had recourse to the use of the *axe*, and to *labour* of the severest kind. I could not at the time repeat ten strokes without rest. It would seem in the first instance to increase my cough. The result was that in two weeks I was nearly recovered. Finding much amendment, I grew remiss in my labour; and in a few weeks relapsed, and was nearly as ill as before, for I lost ground rapidly in the second instance.

Two bleedings and similar LABOUR, however, finally restored me to good health, and I can now sing aloud, and on a sharp and high key; can speak two hours together; and, in one word, I consider myself freed from every symptom of that disorder.

My wife furnishes a second recent case. Her mother, and one of two only sisters, have died of the same disease very lately. She was in her youth an active and industrious woman, and of course took a good deal of laborious exercise. But for several years past she has been declining, so that, from a fleshy and healthy woman, she became a pale, sickly, emaciated valetudinarian. The last summer she brought a fine son. By suckling him she declined in an unusual degree, was at length taken with a cough, chills at noon and in the evening, night sweats, &c. I bled her as often as I could find her pulse tense; advised her (contrary to her inclinations) to use SERVILE LABOUR. She took my advice. Her cough is nearly removed, and I have no doubt she will recover.

I should not have considered these cases of sufficient importance to call your attention, had it not been for the hereditary circumstances attending them.

In my own case they are indeed striking; for not only the persons named above, but a number of my maternal cousins have died of the same disease.

I shall offer a short reflection or two, drawn from my own case. In the first place, I am persuaded that hard labour, if employed in an early stage, can cure the hereditary predisposition in some cases.—Hence I further conclude, that consumptive parents ought never to choose sedentary or light employments for their children.

“ Secondly, I conclude, that although a trotting horse may afford a sufficient exercise for many, yet labour will be far more successful.

“ And lastly, in all cases, the labour should be such as to require considerable efforts on the part of the patient. I laboured *continually*, and rarely with sufficient intervals to refresh myself by rest.

*I am sincerely,*

*Sir,*

*your most obedient*

SAMUEL K. JENNINGS.”

V. It remains to suggest some regulations respecting the use of labour.

It should be diversified according to the seat of the disease.

In affections of the breast, sawing, cutting wood, splitting rails, or the active duty of a common sailor will be found most useful.

The hands and feet should be principally employed in gout. I know of no labour better adapted for this complaint than ploughing.

In rheumatism, lifting weights will be most useful. The labour of a porter seems well calculated for this disease.

Digging in a garden, and reaping will afford most relief in nephritic complaints.

Labour should be constant, and proportioned to the state of the disease, until the cure is complete. A relapse commonly follows its discontinuance.

The propriety of this variation of labour, according to the nature and seat of the disease, needs not be explained, when we consider the general view of its *modus operandi*, which has been given.

THE END.







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